

A Guide to the Amphibians and Reptiles of California Desert Banded Gecko - Coleonyx variegatus variegatus

(Baird, 1859)

Click on a picture for a larger view

Description | Taxonomy | Original Description | Scientific Name | Alternate Names | Similar Herps | References | Conservation Status



Red = Range of this subspecies in California

Coleonyx variegatus variegatus - Desert Banded Gecko

Range of the other subspecies:

Blue: Coleonlyx variegatus abbotti - San Diego Banded Gecko

Gray: Approximate intergrade area

Click the map for a topographical view



Baja California Page



Adult, eastern Riverside County desert









Adult, eastern Riverside County desert







Adult, San Diego County desert



Adult, Inyo County desert





Dail Park

Adult, Inyo County

Adult female, Imperial County

Adult, San Diego County











Adult male, Imperial County

Adult, Imperial County

Adult, Imperial County



Adult from near Canyon Country, Los Angeles County © Anonymous



Adult, Santa Clarita, Los Angeles County © Jeff Ahrens



Adult, San Berardino County desert © Ben Smith



Adult, eastern Riverside County desert © Geoff Fangerow



Adult, San Diego County desert © Patrick Briggs



Gravid adult female, Mono County © Keith Condon



Adult, Riverside County © Brody Trent



Banded geckos are not known for climbing as well as other geckos, but it is not uncommon to find them sheltering in cracks or under caps on large boulders they have climbed. This adult male (notice the spur at the base of his tail) is hiding in a rock crack in the Eastern Sierra Nevada Mountains in Inyo County © Noah Morales.

Juveniles

Desert Banded Gecko - Coleonyx variegatus variegatus









Juvenile, Santa Clarita, Los Angeles County

Sub-adult, eastern Kern County

Juvenile, Imperial County

Juvenile, San Bernardino County © Jennifer Rosta



Juvenile male, Mono County © Adam G. Clause



Subadult male, Mono County © Adam G. Clause

Comparisons of Banded Geckos in California

Also see Western Banded Geckos, Coleonyx variegatus, in California





© Shart Young

Desert Banded Gecko - left San Diego Banded Gecko - right © Bruce Edley

San Diego Banded Gecko (C. v. abbotii) (on fingers) Intergrade (in the middle)
Desert Banded Gecko (C. v. variegatus) (near wrist)

All three were found in Baja California Norte where the ranges of the two subspecies meet. @ Stuart Young





Peninsula Banded Geckos, (*C. switaki*) **left**, have smooth skin with small granular scales interspersed with larger tubercles.

This will help distinguish them from Desert Banded Geckos, **right**, which have smooth skin with small granular scales but no larger tubercles.

Difference Between Males and Females









Males have spurs at the base of the tail. Females do not. Compare

Gravid adult female, Mono County. You can see some eggs in her lower body. © Keith Condon

Habitat



Habitat, Imperial County

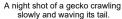
Habitat, Riverside County



Habitat, Imperial County

Short Videos







Three Desert Banded Geckos out at night in the desert.

Description

Size

2 - 3 inches long from snout to vent (5.1 - 7.6 cm).

Appearance

A small, slender lizard with movable eyelids and vertical pupils.
The head is triangular in shape and wider than the neck, and is usually spotted.
The skin is soft with fine granular scales (without tubercles).
Toes are long and slender.
Tail is constricted at the base.

Color and Pattern

Color pattern is variable, with a pale yellow, pink, or light gray background, and tan or brown bands on the body and tail. These bands may be broken into blotches, especially on older adults. In some areas adults do not have broken bands, only spots.

The width of the dark bands is equal to or less than the width of the light areas.

Male / Female Differences

Males have spurs on each side of the base of the tail.

Young

Juveniles tend to have more well-defined unbroken bands than adults and few or no spots inbetween the bands. The bands fade and break up with age. The head is not as spotted as that of an adult.

Juvenile C. v. variegatus have the general appearance of adult and juvenile C. v. abbotti, and this sometimes causes confusion with their identification.

Life History and Behavior

Activity

Active at night, hiding in burrows or under surface objects during daylight. Hibernates through the winter (generally November to February). Curls the tail up and waves it back and forth off the ground when stalking prey. When grasped, this gecko may emit a short squeak. Listen.

Defense

When threatened, it may drop its tail to distract a predator.

The tail will grow back, typically without the banding pattern matching the rest of the lizard's body.

Diet and Feeding

A variety of small invertebrates.

Reproduction

Breeding occurs during April and May. Females lay 1 or two eggs from May to September, which hatch in 45 days.

Habitat

Arid areas including creosote flats, sagebrush desert, pinon-juniper woods, chaparral. Prefers rocky areas, but may occur in rockless ares such as sand dunes.

Geographical Range

Species

The species Coleonyx variegatus ranges through most of Southern California north into the extreme southern part of Nevada and the southwestern tip of Utah, across northwest, southwest, and southeast Arizona into the bootheel of New Mexico, and south down the western edge of the state of Sonora, Mexico and down the entire length of Baja California.

Subspecies

In California the subspecies Coleonyx variegatus variegatus is found in the deserts - on the eastern edge of the Peninsular ranges from the Baja California border east to the Colorado River, north on the northern side of the Transverse ranges and along the eastern side of the Sierra Nevada Mountains to the Bishop area. It ranges inland through the Kern River Canyon to Granite Station in the western Sierra foothills and eastern edge of the San Joaquin Valley.

Beyond California this subspecies ranges into the southern tip of Nevada, across the western half of Arizona, into northeastern Baja California and mainland Mexico.

The northernmost Inyo County record west of the White Mountains and a first Mono County record for this lizard were documented in the southeastern Chalfant Valley in 2016. Herpetological Review 47(2), 2016

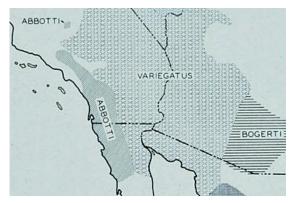
Possible Range of Intergradation With C. v. abbotti

The original description of the range of C. v. abbotti comes from Laurence M. Klauber's original description of the subspecies that was published in 1945:

"Range. -- Coastal and cismontane southern California and northern Lower California from the San Gabriel Mountains, Los Angeles County, south to the west slope of the San Pedro Martir Mountains of Lower California, Mexico. Also Cedros Island off the Pacific Coast of Lower California."

He included localities for the subspecies at Moreno in Riverside County and San Francisquito Hydroelectric Plant 2 in Los Angeles County.

He also included the map below, which, in addition to his comments, shows a small isolated population that appears to be the one on the west side of the Sierra Nevada in Kern County.



Stebbins (2003) and Lizards of the American Southwest (2009) both follow the part of this map that shows C. v. abbotti ranging throughout the Los Angeles basin and up the coast just into Ventura County. But the book California Amphibian and Reptile Species of Special Concern, (Thomsom et al. 2016) shows C. v. abbotti only in San Diego County and just barely over the Riverside County line. I have not seen any museum records to confirm the presence of this subspecies north of San Diego County except for one near Hemet in Riverside County, so I have decided to show the area north of San Diego County as a range of integradation with C. v. variegatus. (This is something I have not seen on any other range map and only represents my ideas.)

In the Santa Clarita area, and in Mono and Inyo Counties (and possibly other areas) some adult Coleonyx variegatus variegatus are marked with well-defined bands and may have a complete nuchal band or light collar marking, but often the heads are spotted and the bands have some spotting. These might just be regional variations where adults retain juvenile markings, though if you consider the old Stebbins (2003) map accurate, and consider that before human settlement C. v. abbotti might have once ranged through the L. A. basin north to Santa Clarita, the Santa Clarita area geckos could also be intergrades. Confusing details like these call into question the validity of the two subspecies. To add to this confusion, Thomson et al. (2016) refer to unpublished data (D. Leavitt, pg. 199) that shows that "In some areas, animals that are morphologically referable to C. v. abbotti are quentically more similar to C. v. variegatus...)

Desert Banded Gecko - Coleonyx variegatus variegatus



Approximate Range of Coleonyx variegatus - Western Banded Gecko

- C. v. abbotti San Diego Banded Gecko
 C. v. bogerti Tucson Banded Gecko
- C. v. peninsularis San Lucan Banded Gecko
- C. v. sonoriensis Sonoran Banded Gecko
- C. v. utahensis Utah Banded Gecko
- C. v. variegatus Desert Banded Gecko
- Intergrade Zones

Elevational Range

From below sea level to around 5,000 ft. (1,520 m).

Notes on Taxonomy

The species Coleonyx variegatus consists of four supspecies in the US, (two in California) with two more in Mexico.

"Leavitt (2015, Ph.D. dissertation, Univ. California, Davis and San Diego State Univ.) presented evidence, based on mt and nuDNA sequences, that *C. v. variegatus* and *C. v. abbotti* constitute lineages with limited bi-directional nuclear gene flow and that *C. v. bogerti* and *C. v. utahensis* are not differentiated from *C. v. variegatus*." (SSAR Herpetological Circular No. 43, 2017.)

Alternate and Previous Names (Synonyms)

Coleonyx variegatus variegatus - Desert Banded Gecko (Stebbins 1966) Coleonyx variegatus - Variegated Gecko (Smith 1946)

Conservation Issues (Conservation Status)

None

Taxonomy

Family	Gekkonidae (Eublepharidae)	Geckos	Boulenger, 1883
Genus	Coleonyx	Banded Geckos	Gray, 1845
Species	variegatus	Western Banded Gecko	(Baird, 1859 "1858")

Subspecies variegatus Desert Banded Gecko (Baird, 1859)

Original Description

Coleonyx variegatus - (Baird, 1858) - Proc. Acad. Nat. Sci. Philadelphia, Vol. 10, p. 254

from Original Description Citations for the Reptiles and Amphibians of North America © Ellin Beltz

Meaning of the Scientific Name

Coleonyx - Greek: koleos - sheath and onyx - nail, talon or claw - refers to sheathed claws variegatus - Latin - of different colors - refers to contrasting elements of color pattern

from Scientific and Common Names of the Reptiles and Amphibians of North America - Explained © Ellin Beltz

Related or Similar California Lizards

Peninsular Banded Gecko - C. switaki San Diego Banded Gecko - C. v. abbottii

More Information and References

California Department of Fish and Wildlife

Stebbins, Robert C., and McGinnis, Samuel M. Field Guide to Amphibians and Reptiles of California: Revised Edition (California Natural History Guides) University of California Press, 2012.

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Stebbins, Robert C. A Field Guide to Western Reptiles and Amphibians, 3rd Edition, Houghton Mifflin Company, 2003.

Behler, John L., and F. Wayne King. The Audubon Society Field Guide to North American Reptiles and Amphibians. Alfred A. Knopf, 1992.

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Bartlett, R. D. & Patricia P. Bartlett. Guide and Reference to the Turtles and Lizards of Western North America (North of Mexico) and Hawaii. University Press of Florida, 2009.

Jones, Lawrence, Rob Lovich, editors. Lizards of the American Southwest: A Photographic Field Guide. Rio Nuevo Publishers, 2009.

Smith, Hobart M. Handbook of Lizards, Lizards of the United States and of Canada. Cornell University Press, 1946.

Conservation Status

The following conservation status listings for this animal are taken from the August 2019 California Natural Diversity Database (CNDDB) Special Animals List and the CNDDB 2019 Endangered and Threatened Animals List, both of which are published by the California Department of Fish and Wildlife.

The status listings here might not be the most current. Check the CDFW CNDDB website to see if there are more current lists: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals

If no status is listed here, the animal is not included on either CDFW CNDDB list. This most likely indicates that there are no serious conservation concerns for the animal. To find out more about an animal's status, you can go to the NatureServe and IUCN websites to check their rankings.

This animal is not included on the Special Animals List, which indicates that there are no significant conservation concerns for it in California.

Organization	Status Listing	Notes		
NatureServe Global Ranking				
NatureServe State Ranking				
U.S. Endangered Species Act (ESA)	None			
California Endangered Species Act (CESA)	None			

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None	
None	
None	
	None

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